trations of hPRP on cell proliferation and osteogenic differentiation in vitro, respectively. These tests was repeated six times.
Results: All groups treated with hPRP resulted insignificant increase in the proliferation and differentiation of hADSCs compared with the negative control group ($P < 0.01$). Only The proliferation and osteogenic differentiation ratio of the one group (10–15% of hPRP seemed to be the optimal concentration) was higher with hPRP than with 10%FCS ($P < 0.05$).
Conclution: We've finally found a medium with hPRP that is perfectly suited to be used as a carrier in clinical applications by replacing fibrin adhesive for treat bone disorders.
Keywords: Human Platelet Rich Plasma (hPRP), Human Adipose-Derived Stromal Cells (hADSCs), Osteogenic differentiation.

P-1-59301-Antibacterial effects of eucalyptus globulus leaf extract on
Pathogenic bacteria isolated from specimens of patients with respiratory tract disorders
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Introduction: Eucalyptus globulus has been found to contain some pharmacoutical properties including of antifungal and antimicrobial activity.
Objectives: The purpose of this study was to investigate in-vitro antibacterial of eucalyptus globulus extract on pathogenic bacteria isolated from patients with respiratory tract disorders.
Materials & Methods: In this study a total of 200 specimens of patients with respiratory tract disorders were collected. The specimens were cultured on selective media and incubated at 37°C for 24 hours. Then the isolates were characterized to species level by conventional biochemical tests. Antibacterial activities of eucalyptus globulus against isolated bacteria were investigated by determining minimum inhibitory concentration (MIC) and minimum bactericidal concentration (MBC) methods.
Results: The results show that, isolated pathogenic bacteria were*Staphylococcus aureus* (28%), *Streptococcus pyogenes* (7.5%), *Streptococcus pneumoniae* (6%) and *Haemophilus influenza* (3.5%). The MIC of eucalyptus globulus extract was 64, 32, 16 and 16 μg/mland the MBC was 128, 64, 32 and 32 μg/mlfor above mentioned microorganisms, respectively.
Conclusions: It is concluded that eucalyptus globulus leaf extract with mentioned concentration is effective against isolated bacteria.
Keywords: Antibacterial effects, Eucalyptus globulus, Leaf extract, Pathogenic bacteria, Respiratory tract disorder

P-1-59695-Study of *APC* gene inactivation by loss of heterozygosity in individual suffering from sporadic colorectal cancer referred from specialized hospitals of Ahvaz
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Introduction: Colorectal cancer (CRC) is one of the most frequent cancers worldwide. Seventy five percent of CRCs are sporadic without family history. Chromosome instability (CIN), microsatellite instability (MSI) and/or Methylation are three major pathways in CRC carcinogenesis. It is considered that CIN pathway is responsible for 80-85% of colorectal cancer. In this pathway, some of tumor suppresser genes undergo some alternations. The *Apc* gene is an important tumor suppresser gene that is located in 5q21 and its alternations occurs in the early stages of colorectal carcinogenesis. Loss of heterozygosity (LOH) is one of the multiple mechanisms for the tumor suppresser gene inactivation.
Objectives: We aimed to determine the LOH rate for the *Apc* gene in patients suffering from CRC in Ahvaz.
Materials & Methods: Paired tumor and normal tissues collected from 50 patients with CRC. We used D5S346, a STR marker, for detection of LOH in 5q. After DNA extraction, PCR performed and products were electrophoresed on a 10% polyacrylamide gel with subsequent sliver method staining.
Results and Discussion: By comparison between paired normal and tumor tissues LOH frequency was found about 30% (15 cases). These results were similar to the reported LOH rate of *Apc* gene in CRC worldwide.
Keywords: Colorectal cancer, *Apc*, loss of heterozygosity (LOH)

P-1-60193-Differentiation of Mesenchymal stem cells
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Mesenchymal stem cells (MSCs) are multipotent, self-renewing cells harboring multi-lineage differentiation potential and immunosuppressive properties that make them an attractive candidate for biological cell-based regenerative medicine. The differentiation of stem cells into smooth muscle cells(SMCs) plays an important role in vascular development. various biochemical factors,including transforming growth factor-b (TGF-b) and the Notch pathway, may play important roles in vascular differentiation. we profiled the gene expression in MSCs in response to TGF-b, and showedthat TGF-b induced Notch ligand Jagged 1 (JAG1) and SMC markers, including smooth muscle a-actin (ACTA2), calponin 1 (CNN1), and myocardin (MYOCD). JAG1 plays an important role in TGF-b-induced expression of SMC markers the activation of Notch signaling induced the expression of SMC markers in MSCs and human embryonic stem cells(hESCs). Notch activation in hESCs also resulted in an increase of neural markers and a decrease of endothelial markers. These results suggest that Notch signaling mediates TGF-b regulation of MSC differentiation and that Notch signaling induces the differentiation of MSCs and hESCs into SMCs, which represents a novel mechanism involved in stem cell differentiation.
Keywords: Mesenchymal stem cells, differentaion smooth muscle, Notch signaling, Transforming growth factor-b1

P-1-63970-Secretom derived from Nrf2- engineered mesenchymal stem cells protects MSCs against oxidative stress
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Introduction: Recent studies have proposed cell therapy as a promising therapeutic strategy for treating many types of disease. Among different cell types, MSCs have been explored as therapeutic tools for a large variety of indications. Although the benefits of MSCs in regeneration and repair of tissues are clearly demonstrated, massive cell death during few days after transplantation limit their overall effectiveness and significantly affect their clinical usage. Hence, development of strategies to improve cell

survival in vivo is a major challenge. For overcoming this limitation, genetically modification of MSC by anti-apoptotic and cytoprotective genes has recently been shown to be highly efficient method but there are still concerns to use them in clinical trials.
Objectives: Therefore, we hypothesized that culture of MSCs in the presence of secretome of genetically manipulated cells by one of the cytoprotective gene i.e. Nrf-2 maybe improve cell survival.
Materials & Methods: In this study, we manipulate bone marrow derived mesenchymal stem cells nuclear factor erythroid 2-related factor 2 (Nrf2) gene. NrF2 is a transcription factor regulates the expression of many antioxidants. Then we cultivate another group of MSCs in the condition medium derived from Nrf2 manipulated cells called secretome. Next, the viability and apoptosis of these cells have evaluated following oxidative stress exposure.
Results: Secretome derived from Nrf2 manipulated cells protect MSCs against cell death and the apoptosis induced by oxidative stress conditions.
Conclusions: Our results suggested that cultivation of MSCs in Nrf2-MSC secretome can be improve cell survival and maybe an appropriate strategy to overcome the limitation of genetically manipulated MSCs. This finding could be use as a novel strategy for enhancing cell engraft and open new window for clinical application of MSCs.
Keywords: Secretome, Mesenchaymal stem cell(MSC), Nrf2

P-1-64621-Effect of isosorbide on MMP-2 activity in Wehi 164 fibrosarcoma cells
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Introduction: matrix metalloproteinase-2 (MMP-2) is a member of large group of enzymes which has an important effect in degradation of extracellular matrix and plays a key role in inflammation. Isosorbide dinitrate (ISDN) is a nitric oxide donor, widely used in treatment of numerous ischemic heart diseases. Besides anti-inflammatory properties of ISDN have also been demonstrated.
Objectives: In this study the effect of ISDN on MMP-2 activityin Wehi 164 fibrosarcoma cells have been evaluated in vitro.
Materials & Methods: The Wehi 164 fibrosarcoma cells were cultured in complete RPMI medium. Then the cells at logarithmic growth phase were incubated with different concentrations of isosorbide (1.6×10^{-3}×4- 10^{-6} M) for 24 hours. Subsequently the MMP-2 activityin the cell culture supernates was detected with gelatin zymography.
Results: The MMP-2 activityin Wehi 164 fibrosarcoma cells treated with different concentrations of isosorbide did not show any significant difference with untreated control cells.
Conclusions: According to the results of present study, isosorbide had no significant effect on MMP-2 activity in Wehi 164 fibrosarcoma cells. These findings suggest that anti-inflammatory properties of isosorbide which was reported by others´ researches may be result of MMP-2 independent mechanism(s).
Keywords: Isosorbide, MMP-2, fibrosarcoma

P-1-65056-Improved Real-time RT-PCR assays of two colorectal cancer peripheral blood mRNA biomarkers: A pilot study
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Background: Colorectal cancer (CRC) is the third most commonly diagnosed cancer in males and the second in females. Efficient screening for detection of CRC at earlier stages reduces its mortality.
Objectives: The purpose of this study was to investigate expression of carcinoembryonic antigen (CEA) and human telomerase reverse transcriptase (hTERT) mRNA in peripheral blood of CRC patients in non-metastatic stages and to present strategies for early detection screen test.
Materials andMethods: A number of 27 patients from stages I,II and III (9, 10 and 8 patients, respectively) and 27 healthy individuals were studied. Expression of CEA, hTERT mRNA and 18srRNA (as reference gene) were determined based on the real-time RT-PCR on cDNA samples, synthesized from reverse transcription of 3 micrograms of total peripheral blood RNA in 3 separate vials (1 microgram per vial).
Results and Conclusions: Positive expression rate of CEA mRNA and hTERT mRNA in patient group were78% and 81% respectively. These values were higher than healthy group ($P < 0.001$). These rates were also meaningfully higher than the results of individual vials containing cDNA samples, synthesized from reverse transcription of 1 microgram of total RNA. Difference between Ct values of markers with 18srRNA (ΔCt) was higher in healthy group than patient group. Therefore, a ΔCt cut-off value was determined for distinguishing between true and false positive results. Concurrent expression of both markers was found in 67% of patients, which was higher than healthy cases (11%). Combination of concurrent marker expression with cut-off point strategy increased specificity to 100%. These results showed that concurrent evaluation of markers expression and performing the test on 3 micrograms of sample in 3 separate vialsmay respectively increase specificity and sensitivity of real-time RT-PCR for early detection of non-metastatic CRC. However, more investigations with larger number of samples are needed to verify these results.
Keywords: Carcinoembryonic antigen; biomarker; colorectal cancer.

P-1-69231-3´untranslated region nucleotide analysis in coronaviruses of different species
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Introduction: Coronaviruses are enveloped viruses with a large, non-segmented capped and polyadenylated single-stranded RNA genome, located in family Coronaviridae. They are divided in to three groups(I to II), based on antigenic and genetic similarities. Groups I and II include animal and human coronaviruses. Birds coronaviruses are located in group III. The SARS coronavirus is not classified to any of these groups.
Objectives: Because of previous reports on potential of coronaviruses to infect other species such human, understanding the genetic characteristics would be very helpful not only in differentiating strains but also in distinguishing origin of each isolate.
Materials & Methods: In this study, 3´untranslated region nucleotide sequence of 23 coronavirus reference strains related to different species including SARS Coronavirus obtained from NCBI (gene bank), analyzed and compared with each other using